WHAT IS CLAIMED IS:

1. A data transmission system in which a server sends out, onto any one of communications circuits, content data designated by a content reservation request to a data circuit terminating equipment connected to a data terminal equipment for storage, wherein

said content reservation request additionally indicates a time limit by when the content data designated by said data terminal equipment is to be ready in said data circuit terminating equipment,

either said server or any one of said communications circuits comprises:

a time limit management part for managing the time limit designated by the content reservation request from said data terminal equipment; and

a scheduling part for determining, on the basis of both the time limit managed in said time limit management part and predetermined communications information, a transmission timing which ensures the content data completely transmitted by the time limit and an optimal communications circuit among from said communications circuits, and

said server comprises a data send out part for sending out the content data onto the optimal communications circuit according to the transmission timing determined by said

scheduling part.

2. The data transmission system according to claim 1, wherein said predetermined communications information indicates, at least, a size of the content data designated by said content reservation request, or the number of data terminal equipment to which the content data is addressed.

3. The data transmission system according to claim 1, wherein said data circuit terminating equipment works while receiving power from any one of said communications circuits.

4. The data transmission system according to claim 1, wherein said data circuit terminating equipment comprises:

a content storage for storing the content data coming over said optimal communications circuit into a recording area thereof; and

a data transmission part for reading, from said content storage, the content data designated by a read request from said data terminal equipment for transmission to the data terminal equipment.

5. The data transmission system according to claim 4, wherein, after reading the content data designated by said read request, said data transmission part also reads content data not

designated by the read request, and transmits a set of the content data to the data terminal equipment.

6. The data transmission system according to claim 4, wherein said data circuit terminating equipment transmits, to said data terminal equipment, a storage completion notice indicating that the content data is successfully stored in said recording area.

7. The data transmission system according to claim 6, wherein said storage completion notice is in a format of HTML (Hyper Text Markup Language).

8. The data transmission system according to claim 6, wherein said storage completion notice is an e-mail.

9. The data transmission system according to claim 6, wherein

said data circuit terminating equipment is capable of transmitting said storage completion notice in various formats, and

the storage completion notice is transmitted to said data terminal equipment in a format designated by a user thereof.

10. The data transmission system according to claim

4, wherein

at least one of said communications circuits includes a recording area management unit for managing the recording area of said data circuit terminating equipment, and

in response to a request from said server, said recording area management unit transmits a recording area reserve instruction to ask said data circuit terminating equipment to reserve a space in the recording area for the content data.

11. The data transmission system according to claim 4, wherein, when the content data requested by the data terminal equipment is popular, said data circuit terminating equipment inquires said server through cache processing whether the content data has been updated,

if updated, said server responsively transmits the updated content data to said data circuit terminating equipment, and

said data circuit terminating equipment stores the updated content data received from said server into the content storage.

12. The data transmission system according to claim 1, wherein, in said cache processing, said data circuit terminating equipment inquires the server when a communications traffic on said optimal communications circuit is low.

13. The data transmission system according to claim 11, wherein

the recording area of said content storage is divided into a plurality of smaller areas, and

said data circuit terminating equipment assigns each different smaller area to store the content data acquired by said content reservation request and the content data acquired through said cache processing.

14. The data transmission system according to claim 4, wherein

said data circuit terminating equipment is plurally included, and

any one of said data circuit terminating equipment acquires content data stored in a content storage of other data circuit terminating equipment.

15. The data transmission system according to claim 1, wherein said data circuit terminating equipment is implemented with a protocol to function as a mail server, and performs transmission and reception of an e-mail.

16. The data transmission system according to claim 15, wherein said data circuit terminating equipment sends out said e-mail onto said optimal communications circuit when the

communications traffic thereof is low.

17. The data transmission system according to claim 16, wherein

said e-mail is assigned a priority indicating an importance thereof, and

said data circuit terminating equipment changes a timing for sending out the e-mail onto said optimal communications circuit according to the priority assigned thereto.

18. A data transmission method under which a server sends out, onto any one communications circuit among plural, content data designated by a content reservation request to a data circuit terminating equipment connected to a data terminal equipment for storage, wherein

said content reservation request additionally indicates a time limit by when the content data designated by said data terminal equipment is to be ready in said data circuit terminating equipment,

said method comprising the steps, carried out by either said server or any one of said communications circuits, of:

managing the time limit designated by the content reservation request from said data terminal equipment; and

determining, on the basis of both the time

limit managed in said management step and predetermined communications information, a transmission timing which ensures the content data completely transmitted by the time limit and an optimal communications circuit among from said communications circuits, and

said method further comprising the steps, carried out by said server, of: sending out the content data onto the optimal communications circuit according to the transmission timing determined in said scheduling step.

19. A data transmission system in which content data designated by a content reservation request from a server to a data terminal equipment through a communications circuit, wherein

said content reservation request additionally indicates a download condition for downloading the content data designated by said data terminal equipment;

said data transmission system comprises:

a content reservation status data generation part for generating content reservation status data indicating the download condition for the content data on the basis of the content reservation request which has been received; and

a data transmission part for transmitting the content reservation status data generated by said content reservation status data generation part to the data terminal

equipment,

by comprising said content reservation status data generation part and said data transmission part, said transmission system induces other data terminal equipment by showing the content data is available under the download condition, and

said transmission system further comprises:

a DL condition management part for managing the content data and the download condition designated by the content reservation request from said data terminal equipment;

a scheduling part for determining, on the basis of the download condition managed in said DL condition management part, a transmission timing which ensures the content data transmitted under the download condition, and

a data send out part for sending out the content data onto said communications circuit according to the transmission timing determined by said scheduling part.

20. The data transmission system according to claim 19, wherein said download condition is a time limit by which the content data designated by said data terminal equipment is to be ready in said data circuit terminating equipment.

21. The data transmission system according to claim 20, further comprising an acceptance processing part for

accepting the content reservation request, and depending on how many other data terminal equipment are so far induced to receive the content data by the time limit, determines a transmission expense for the content data.

22. The data transmission system according to claim 21, wherein, when the content reservation request from said data terminal equipment carries a new time limit which is not indicated by said content reservation status data , said acceptance processing part refers to a time margin left for the time limit to determine the transmission expense for the content data.

23. The data transmission system according to claim 19, wherein

said download condition is a transmission expense for the content data designated by the content reservation request from said data terminal equipment,

said transmission system further comprises an acceptance processing part for accepting the content reservation request from said data terminal equipment, and depending on how many other data terminal equipment are so far asking for the content data transmitted by the time limit, determines the transmission expense for the content data, and

when the transmission expense determined by said acceptance processing part becomes equal to or less than a

predetermined value, said data send out part sends out the content data designated by said content reservation request onto said communications circuit.

24. The data transmission system according to claim 19, wherein

said download condition is the number of other data terminal equipment asking for the content data transmitted,

said data transmission system further comprises an acceptance processing part for accepting the content reservation request from said data terminal equipment, and depending on how many other data terminal equipment are so far asking for the content data transmitted, determines a transmission expense for the content data, and

when the number of content reservation requests accepted by said acceptance processing part becomes equal to or larger than a predetermined value, said data send out part sends out the content data designated by said content reservation request onto said communications circuit.

25. A data transmission method under which content data designated by a content reservation request from a data terminal equipment is transmitted from a server to the data terminal equipment through a communications circuit, wherein

said content reservation request additionally

indicates a download condition for downloading the content data designated by said data terminal equipment;

said method comprising:

a content reservation status data generation step of generating content reservation status data indicating the download condition for the content data on the basis of the content reservation request which has been received; and

a data transmission step of transmitting the content reservation status data generated in said content reservation status data generation step to the data terminal equipment,

by said content reservation status data generation step and said data transmission step, other data terminal equipment are induced to receive the content data under the download condition, and

said method further comprising:

a DL condition management step of managing the content data and the download condition designated by the content reservation request from said data terminal equipment;

a scheduling step of determining, on the basis of the download condition managed in said DL condition management part, a transmission timing which ensures the content data transmitted under the download condition, and

a data send out step of sending out the

content data onto said communications circuit according to the transmission timing determined in said scheduling step.

26. A data transmission system in which a server sends out, onto any one communications circuit among plural, a content data set designated by a content reservation request to a data circuit terminating equipment connected to a data terminal equipment for storage, wherein

said content data set includes a plurality of content data each varying in content,

said content reservation request additionally indicates a time limit by when the content data set designated by said data terminal equipment is to be ready in said data circuit terminating equipment,

either said server or any one of said communications circuits comprises:

a time limit management part for managing the time limit designated by the content reservation request from said data terminal equipment; and

a scheduling part for determining, on the basis of both the time limit managed in said time limit management part and predetermined communications information, a transmission timing which ensures the content data set completely transmitted by the time limit and an optimal communications circuit among from said communications circuits,

said server comprises a data send out part for sending out the content data set onto the optimal communications circuit according to the transmission timing determined by said scheduling part, and

said data circuit terminating equipment is connected to said communications circuits, and from the content data set received from said optimal communications circuit, reads only the content data satisfying a predetermined selection condition for transmission to said data terminal equipment.

27. The data transmission system according to claim 26, wherein said data circuit terminating equipment comprises:

a content storage for storing the content data set received from said optimal communications circuit therein; and

a data transmission part for reading, from said content storage, only the content data satisfying the predetermined selection condition for transmission to said data terminal equipment in response to a read request therefrom.

28. The data transmission system according to claim 27, wherein

each of said content data included in said content data set is provided with attribute information indicating own attribute,

said data circuit terminating equipment further

comprises a selection condition list storage for storing a selection condition list including a selection condition on the basis of the attribute of the content data to be transmitted to said data terminal equipment, and

said data transmission part reads, from said content storage, the content data according to the selection condition list stored in said selection condition list storage for transmission to said data terminal equipment.

29. The data transmission system according to claim 28, wherein said selection condition list is generated based on a keyword inputted into said data terminal equipment by a user.

30. The data transmission system according to claim 27, wherein said data circuit terminating equipment further comprises a data deletion part for deleting the content data set stored in said content storage with a predetermined timing.

31. The data transmission system according to claim 30, wherein, when a recording capacity of said content storage becomes smaller in value than a predetermined reference recording capacity, said data deletion part deletes the content data set stored in the content storage.

32. The data transmission system according to claim

30, wherein

said content data set is provided with deletion timing information indicating a timing when to be deleted, and

said data deletion part performs deletion according to the deletion timing information provided to the content data set.

33. The data transmission system according to claim 26, wherein said data circuit terminating equipment comprises:

a content storage for storing, from the content data set received from said optimal communications circuit, only the content data satisfying the predetermined selection condition, and

a data transmission part for reading the content data stored in said content storage for transmission to said data terminal equipment in response to a read request therefrom.

34. A data transmission method under which a server sends out, onto any one communications circuit among plural, a content data set designated by a content reservation request to a data circuit terminating equipment connected to a data terminal equipment for storage, wherein

said content data set includes a plurality of content data each varying content,

said content reservation request additionally indicates a time limit by when the content data set designated

by said data terminal equipment is to be ready in said data circuit terminating equipment,

said method comprising the steps, carried out by either said server or any one of said communications circuits, of:

managing the time limit designated by the content reservation request from said data terminal equipment; and

determining, on the basis of both the time limit managed in said time limit management step and predetermined communications information, a transmission timing which ensures the content data set transmitted by the time limit and an optimal communications circuit among from said communications circuits,

said method further comprising the steps, carried out by said server, of: sending out the content data set onto the optimal communications circuit according to the transmission timing determined in said scheduling step, and

said data circuit terminating equipment is connected to said communications circuits, and from the content data set received from said optimal communications circuit, reads only the content data which has been predetermined for transmission to said data terminal equipment.